WARRANTY CARD

1. KH Trading machines and tools are covered by 6/24 months warranty, starting on the date of purchase, as described in the Civil Code (proof of purchase or invoice receipt must be enclosed with the warranty card when making a claim).
2. This warranty does not cover defects caused by unprofessional handling, machine overloads, not complying with instructions contained in this manual, using accessories that are not approved, unauthorized repair, regular wear and tear and damages occurred during transport. Further, this warranty does not cover parts and accessories such as the motor, carbon brushes, seals and hot-air operated parts and parts that need to be changed regularly.
3. If the repair is to be found as not covered by the warranty policy, all costs including the repair and shipping to and from the repair centre will be paid by the customer, according to valid price list. See www.
4. When making a claim, you must present the warranty card, showing the date of the purchase, the serial number of the machine, vendor stamp and signature of sales clerk, as well as the proof of purchase receipt.
5. Warranty claim shall be made at the vendor shop where you bought your machine or you may mail it to a service centre. The vendor is obligated to fill out the warranty card (date of sale, serial number, vendor stamp and signature). All these information must be filled in at the time of sale.
6. The warranty period will be extended for the period of time for which the machine has been in the service centre possession. If the repair or defect is not covered by the warranty policy, all costs including the repair and shipping will be paid by the owner of the machine / tool. We recommend sending the machine in its original packaging. Please, also enclose brief description of the defect with the packaging.
7. Before sending the machine for repair, clean it thoroughly. If the received machine is dirty, it may be rejected by the service shop or you may be charged a cleaning fee.

SERVICE
Logistic centre Klecany
Topolová 483
250 67 Klecany
Czech Republic

Claim department phone number: 266 190 156
266 190 111
Fax: 260 190 100
http://www.KHnet.cz
Email: servis@KHnet.cz

T-mobile: 603 414 975
O2: 601 218 255
Vodafone: 608 227 255

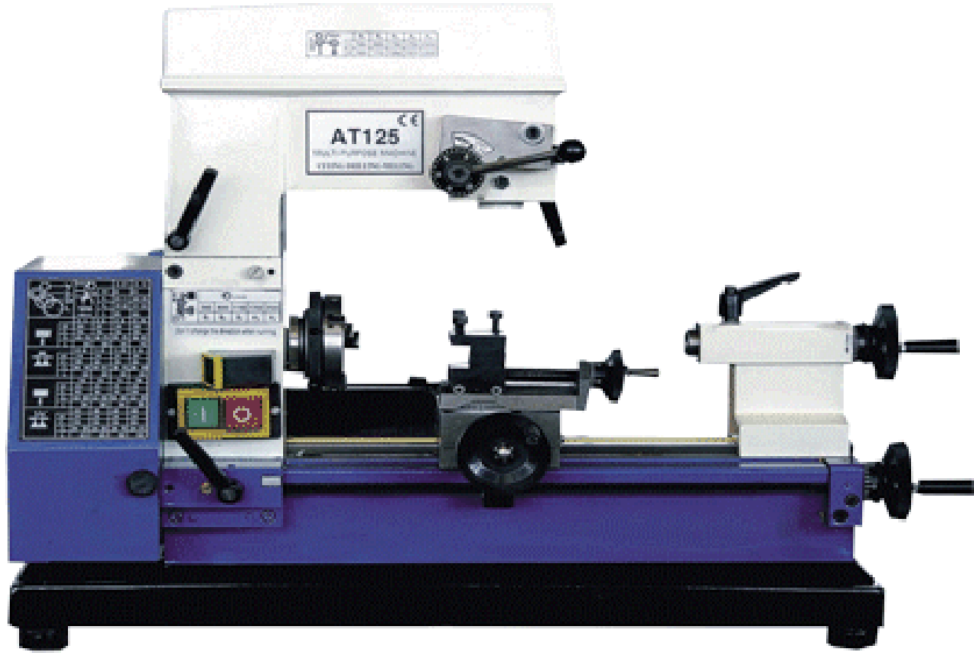
Product: **MULTIPURPOSE LATHE WITH MILLING MACHINE AT125 MINI**	
Type: **AT125**	Serial number (product series):
Date of manufacture:	Repair centre notes:
Date of sale, stamp, signature:	

Without the correctly filled warranty card or without proof of purchase receipt, including the product type (invoice, purchase receipt) no warranty claim will be processed.

unimax

USER'S MANUAL

MULTIPURPOSE LATHE WITH MILLING MACHINE AT125 MINI



AT125

Dear customer. Thank you for purchasing equipment from KH Trading, s.r.o.
Our company is ready to offer you our services - before, during and after you buy our product.
If you have any question, comment or idea, please contact our business centre. We will do our best to address your comment or question in timely matter.

Before first use, please read this manual carefully. It is your responsibility to study all instructions, necessary for safe use and operation and to understand all risks that may be involved during the use of power machines.

WARNING! Do not try to use this machine before reading this entire manual and before you know how to handle it. Keep this manual for future reference.
Pay special attention to safety instructions. Not complying with safety rules may cause injury to the operating person or to people standing by or it may cause damage to the machine or to the work piece.
Pay special attention to safety notes and safety labels on the machine.
Never remove or damage them.

Please, write information such as the invoice number and the number of the sale receipt here in this box.

DESCRIPTION

Machine description
Convenient, multipurpose machine for turning, machining and drilling operations. Suitable mainly for small series production. Thanks to the all-in-one design, you may perform drilling, turning, machining and milling operations on one machine. After the removal of the knife support you may use the milling machine table to fasten the work piece for milling/drilling operations. The power train uses one single engine and the output is transferred via V-belts and exchangeable toothed gears. Machine is equipped with automatic longitudinal feed and offers options to cut various threads. The milling machine arm may be turned around (360°) on the horizontal plane.

Number of operating persons required: 1

REPAIR AND MAINTENANCE REPORT

Report and maintenance report:

DATE	REPAIR AND MAINTENANCE REPORT	SERVICE SHOP

REVISION REPORT

The user is obligated to perform tests and revisions of electrical equipment of the machine in accordance with valid rules and regulations. Result report:

DATE	REVISION REPORT	REVISION TECHNICIAN Number / SIGNATURE

TECHNICAL SPECIFICATION

Engine input	180 W
Voltage	~230V / 50 Hz
Maximum cutting diameter above the bed (L)	Ø 125 mm
Maximum cutting diameter above the support (S)	Ø 60 mm
Maximum work piece length (X)	180 mm
Inner chuck diameter	Ø 9 mm
Chuck cone (lathe)	Mk 1
Tailstock cone	Mk 1
Speed range (revolutions) in degrees (lathe)	560 - 2,500 (5) rpm
M thread pitch (degree)	0.25 - 1 (10) mm (degree)
W thread pitch (degree)	22 - 64 (10) 1/" (degree)
Maximum feed of the knife support	40 mm
Maximum feed of the cross support	60 mm
Maximum feed of the longitudinal support	180 mm
Automatic longitudinal feed	0.07 - 0.14 mm/revolution
Automatic cross feed	NONE
Continuous setting	NONE
Tailstock range	18 mm
Number of uni chuck jaws	3
Fastening diameter of the uni chuck outer/inner (Ui/o)	NONE/ 65 mm
Dimensions (l x w x h)	520 × 300 × 410 mm
Speed range (revolutions) in degrees (milling machine)	500 - 2,500 (10) rpm
Head tilt angle	NONE
Table dimensions	85 × 60 mm
Spindle cone (milling/drilling machine)	Mk 1
Maximum drill diameter	Ø 6 mm
Maximum milling tool diameter	Ø 6 mm
Fine spindle feed	NONE/ 40 mm
Spindle set out	125 mm
Maximum distance between the spindle and the table	120 - 160 mm

The accuracy of instructions, graphs and information contained herein, depends on the printing date. Due to continuous product improvement, the manufacturer reserves the right to change technical parameters of the product, without prior customer notification.

SAFETY PRECAUTIONS

- **This device may be used by a qualified person, 18 years or older who has been trained in work and environmental safety procedures.**
- **Any person using this equipment must possess a medical certificate demonstrating his eligibility to operate this equipment.**

We recommend placing work safety regulations notices at your workshop:

- **"Prevent the most common injuries" - LATHES**
- **"Prevent injuries" - METAL TURNING MACHINES**

Symbols used in this manual

Warning!
This symbol informs you about the risk of personal injury or damage to the machine or materials.

Caution! You are using electrically powered machine!
Risk of injuries by electrical current.

Risk of being caught by spinning machine parts!
Caution! Loose clothing or body parts may get caught by moving machine parts.

Warning!
Danger of damage.

Note:
Additional information.

Use personal protective gear.

General instructions

- Make sure you know how to control your tool or machine and that you are familiar with its operating procedure. Know the hazards that may occur, if not used correctly.
- If other person is using this machine make sure that he knows how to safely operate this equipment and that he is familiar with hazards and risk that may occur, if not used correctly.
- Pay special attention to safety notes and safety labels on the machine. Do not remove or damage them. If the warning label becomes unreadable, please contact your vendor.
- Dirty and disorganized workplace may cause accidents.
- Never work in poorly lit, narrow or too crowded rooms. Always keep stable posture.
- Maintain your tools clean and in safe working conditions.
- Handles must be kept free of grease and dirt.
- Make sure no children, unauthorized persons or animals have access to your workshop.
- Use only for purposes for which it has been designed.
- Use personal protective gear such as safety goggles, ear protection, respirator, safe working shoes etc.
- Do not overreach, use both hands.
- Never work under the influence of alcohol or other drugs.
- Do not use the machine/tool if you feel dizzy or week.
- Any modifications or improvements to the machine are strictly prohibited. DO NOT USE if you discover bent part, crack or other damage.

LIST 06 Knife holder

Position	Dimension	Name
1	M4×10 GB70-85	Screws with inner hexagonal head
2	AT125-06-107	Mount
3	5 GB97.2-85	Regular washers
4	AT125-06-106	Guiding screw
5	AT125-06-104	Knife holder
6	M4×16 GB70-85	Screws with inner hexagonal head
7	AT125-06-101	Integrated angular knife head
8	AT125-06-109	Wedge
9	BM8×50 GB4141.15-84	Handle lever
10	AT125-06-103	Seat
11	AT125-06-102	Shaft stud
12	AT125-06-105	Four-sided nut
13	M3×8 GB75-85	Setting screw with full pin
14	M3 GB6170-86	Hexagonal nut
15	M4 GB6170-86	Hexagonal nut
16	AT125-06-108	Hand wheel
17	AT125-02-107	Long socket ball
18	M4×40 GB70-85	Screws with inner hexagonal head
19	M5 GB923-88	Arched closed nut
20	AT125-02-106-1	Seating
21	M5×10 GB70-85	Screws with inner hexagonal head

- Never perform any maintenance during operation.
- If you see any unusual sign or hear any strange sound, switch off the machine immediately.
- Do not forget to remove all wrenches and screwdrivers from the machine after use.
- Before use, make sure all screws are tightened securely.
- Perform maintenance regularly. Before use make sure the machine is in good working conditions and without any damage.
- Use only original spare parts during repairs.
- Using extension pieces or accessories not approved by the manufacturer may cause injuries to the operating personnel.
- Use suitable tool for particular type of work. Do not overload tools, accessories or the machine. For large work volume use more powerful machine.
- Do not overload your device. Measure the work load in such way, so it could be done with comfortable speed. Damages due to machine overload are not covered by the warranty policy.
- Do not expose to extremely high temperature or direct sunlight.
- This machine is not designed for use in humid environments or under water.
- If you are not using your machine, store it in a dry and safe place, out of reach of children.
- Before use make sure that all safety elements work correctly and efficiently. Make sure all moving parts are in good working conditions.
- Before use make sure that no part is cracked or stuck, Make sure all parts are attached and assembled as designed. Beware of all other conditions that may have a negative effect on the proper functioning of your machine.
- If not stated otherwise in this manual, all damaged parts and safety elements must be repaired or changed.

Fine mechanics

- Never use a vise to hold you device.
- Protect your machine from fall and impact.

Assembly

- Do not use the machine unless completely assembled.

Electrical equipment

- Observe all basic safety rules when using electrical equipment to prevent risk of fire, injuries by electrical shock and other hazards. Before using this device, read this manual entirely and follow all safety instructions.
- Make sure the power cable plug is plugged into the correct wall outlet. The voltage in the wall outlet must be the same as shown on the specification label to prevent damage to the electric motor. Too low voltage will not provide your machine with enough power.
- Before connecting the machine to the wall outlet make sure that the main switch is in the "OFF" position. When you finished your work, disconnect the power plug from the wall outlet and switch off the main switch.
- Never carry electrical tools and appliances by their power cord. When disconnecting the plug from the wall outlet, never pull the cable by its cord.
- Protect the power cable from high temperatures, oils, paint thinners and make sure that the cable is not hanging over sharp edges.
- Inspect the power cable regularly. If damaged have it replaced by qualified technician. Inspect extension cables regularly. If damaged, have it replaced.
- If you need to use an extension cable, use cable with appropriate power rating. Use only completely unwound. Inspect extension cables regularly. Damaged cable must be repaired or changed immediately.

- Before performing any maintenance, repair or adjustment, switch off the main switch and disconnect the power cable from the wall outlet.
- Make sure no one may switch you machine incidentally on. Do not keep your fingers close to the main switch, unless absolutely necessary.
- If you mount your machine to the work table, release the safety button after installation.
- Do not use in environments where explosives are stored or used (paint shops, warehouse with flammables etc.).
- Do not use in humid environments or if wet.

Rotary tools/machines

- Always wear suitable work clothing (do not wear loose clothing, ties, jewellery etc.). Long hair must be covered and tied up behind you head. Do not wear worn out working shoes. Sleeves must be rolled up. Loose clothing or body parts may get caught by moving machine parts.
- Do not remove safety covers. Make sure the operating personnel is well-protected.
- Do not touch or come close with moving machine parts during work. Keep your hands away from moving and spinning machine parts.

Machining and turning operations

- Always securely fasten the work piece on the work table using appropriate clamping equipment or vise. Do not hold the work piece in your hands during work. Use both hands to hold the handles of the machine/tool.
- Do not overreach. Maintain stable posture on both legs. That way you will not be thrown out of balance in case of a reverse impact.
- Keep your tools clean and sharp.
- When changing tools or during maintenance, follow safety instructions.
- To feed or move the work piece use appropriate extension tool.
- Make sure the work piece complies with required technical parameters and that it is securely fastened.
- Use extra caution when releasing the work piece from the fastening device.

Drilling

- Make sure the work piece is properly fastened to the work table against turning during drilling.
- Before switching your machine on make sure the chuck is turning in the right direction, based on the used tool.

Milling

- Make sure the material is fed to the machine in the correct direction that is, against the directions of the spinning cutting head.

Power equipment

- If your machine is equipped with depressed springs, use suitable device to release them slowly and safely.

ASSEMBLY

- Make sure no part is left inside the packaging box before throwing the packaging materials out. If so, take it out and install it. Use the part listing for check-up and the installation drawing for guidance.
- Your machine is equipped with rubber leg pads for comfortable and safe mounting.
- Before using your machine, loosen the stand, work table and the drilling/milling spindle because these have been secured against movement at the factory before shipping.
- Before use, clean bare working surfaces with paraffin oil and then lubricate them with oil.

LIST 05 Gear box

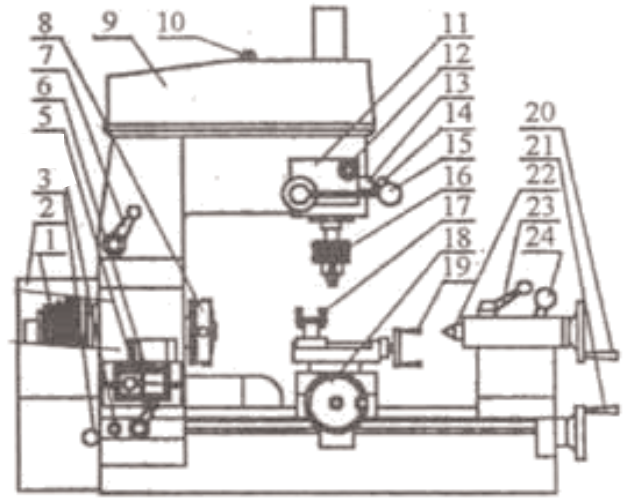
Position	Dimension	Name
1	M3×8 GB67-85	Screw with spherical head
2	AT125-05-101	Feed box cover plate
3	M5x35 GB70-85	Screws with inner hexagonal head
4	6 GB894.1-85	Washer
5	80026 GB278-89	Radial ball bearing
6	Y300 GB1171-84	V-belt, type 300
7	AT125-05-114	Middle pulley
8	Y250 GB1171-84	V-belt, type 250
9	80026 GB278-89	Radial ball bearing
10	5 GB96-85	Big washer
11	M4×8 GB818-85	Screw
12	AT125-05-107	Feed box base plate
13	M4×25 GB818-85	Screw
14		Circuit breaker
15	AT125-05-112	Support plate
16	M5×10 GB70-85	Screws with inner hexagonal head
17	AT125-05-109	Pedestal
18	AT125-05-111	Engine assembly plate
19	0.18KW 110V/60HZ	Motor
20	M5×25 GB70-85	Screws with inner hexagonal head
21	AT125-05-108	Door ball
22	AT125-05-115	sleeve
23	M5 GB6170-85	Low height hexagonal nut
24	M5×20 GB70-85	Screws with inner hexagonal head
25	AT125-05-105	Gear shifting plate
26	5 GB96-85	Big washer
27	M5×55 GB70-85	Screws with inner hexagonal head
28	10 GB97.2-85	Washer
29	AT125-05-106	Middle piece
30	12? AT125-05-103	Exchangable wheel type 12
31	AT125-05-104	Wedge socket
32	6 GB894.1-85	Washer
33	4 GB896-86	E shape safety ring
34	AT125-05-102	Gear shifting shaft
35	AT125-05-116	Stopper desk
36	M5×16 GB70-85	Screws with inner hexagonal head
37	AT125-05-110	Engine belt pulley
38	M5×10GB5782-86	Screw with hexagonal head
39	M5x35 GB70-85	Screws with inner hexagonal head
40	5 GB96-85	Big washer

LIST 04 Lathe spindle

Position	Dimension	Name
1	806 GB276-89	Single row bearing
2	AT125-04-107	Conical gear
3	M4×6 GB71-85	Setting screws with conical pin
4	20 GB894.1-86	Outer safety ring
5	AT125-04-108	Spring washer
6	804 GB276-89	Single row bearing
7	M5×25 GB70-85	Screw with inner hexagonal head
8	AT125-04-110	Lathe spindle
9	804 GB276-89	Single row bearing
10	AT125-04-109	Lathe spindle
11	AT125-04-106	Right jaw clutch
12	AT125-04-105	Bearing seat
13	M4×10 GB5782-86	Screw with hexagonal head
14	808 GB276-89	Single row bearing
15	AT125-04-104	Spindle pulley
16	AT125-04-103	Clutch socket
17	2 GB308-77	Steel ball
18	0.3×2×6 GB2089-80	Spring
19	M3×5 GB73-85	Setting screw with flat tip
20	3×28 GB119-86	Straight stud
21	AT125-04-101	Toothed gear casing
22	24Tooth AT125-04-102	Toothed gear
23	M3×5 GB78-85	Screw with inner hexagonal head

OPERATION

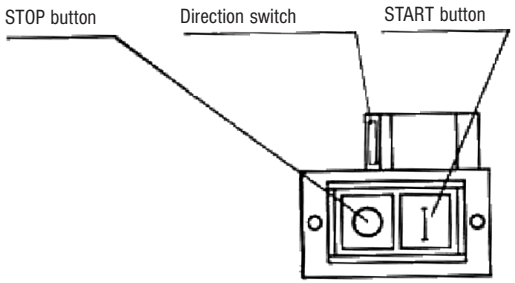
Control element and button description



1. Switch clutch between lathe and milling machine.
2. Transmission cover
3. Transmission cover closing screw
5. Electric switch controlling the turning direction (for turning, milling and longitudinal milling feed).
6. START and STOP buttons
7. Spindle turning direction safety handle (turning and milling)
8. Chuck
9. Driving belt cover (turning and milling)
10. Cover fastening nut
11. Fine control mechanism
12. Fine control mechanism safety screw
13. Fine control worm gear with inner hexagon
14. Spindle sleeve handle (drilling and milling)
15. Lifting and lowering handle of the drilling/milling spindle
16. Drilling chuck
17. Cutting tool fastening screw
18. Cross feed control wheel - manually operated
19. Knife head handle
20. Tip socket feed control wheel
21. Longitudinal feed wheel - manually operated
22. Non-moveable tip
23. Tip socket safety handle
24. Tailstock safety handle

Important part description:

- **Shifting clutch (turning and milling) position 1):** spindle direction (lathe or milling machine) control. By moving the clutch to the left (see picture 5) you will switch on the lathe spindle. If you push the clutch to the right (see picture 5), you will switch on the drilling/milling spindle. Caution. The machine clutch is equipped with three-stud connecting mechanism. If you pull the clutch in or pull the clutch out, you must turn the clutch or the pulley in order to align the three studs with the opposite holes in order to finish the connection.
- **Turning direction switch (position 5):** by engaging the switch, you may change the turning direction for all operations. You may change it only after you have pressed the STOP button and the spindle has stopped completely. Now change the turning directions and press the START button.
- **Electric switch for spindle turning direction control (position 6):** The control panel contains two buttons. See picture 6. The red button on the right side is the STOP button and the green button on the left side is the START button. The switch above switches between right and left direction of turning. Caution. You may use the switch only if the electric motor is stopped. If you attempt to use it when the engine is turning, you may damage the switch or even the motor.



- **Spindle turning direction safety handle (turning and milling), position 7):** The milling/drilling spindle may be turned around 360°, as well as up and down. During drilling or milling operation make sure that the spindle is secured on the vertical column by turning the safety handle.
- **Fine control mechanism (position 11):** use this mechanism if you wish to move the spindle automatically in slow feeding speed (micro feed). Safety screw (position 12) is used to block this control mechanism. If the screw is loose, the mechanism may turn freely. If the fine mechanism is positioned towards the place where the worm gear (position 13) extends beyond the worm toothed gear (behind the vertical feed dial), you may use inner hexagonal wrench to turn the worm gear to move (feed) the drilling/milling spindle up or down slowly (fine feed control). Usually you will use the fine control during milling operations (position 14). When you set the desired parameters and position, secure it in place with the lever. Release the mechanism during drilling and secure it with the screw (position 12). Turn the handle to move the spindle up or down.

43	AT125-03-110	Cross feed threaded pole housing
44	M4×30 GB70-85	Screw with inner hexagonal head
45	AT125-02-105	Dial
46	AT125-02-106	Hand wheel
47	M6 GB923-88	Arched closed nut
48	M4 GB6170-86	Low height hexagonal nut
49	AT125-02-107	sleeve
50	M4×40 GB70-85	Screw with inner hexagonal head
51	M6 GB923-88	Arched closed nut
52	M4×8 GB71-85	Setting screws with conical pin
53	6 GB1155-79	Pressure feed lubrication
54	AT125-03-108	Long feed threaded pole
55	2×12 GB879-86	Spring cross stud with grooves
56	AT125-03-121	Long feed nut housing
57	AT125-03-111	Sleigh
58	M4×8 GB70-85	Screw with inner hexagonal head
59	AT125-03-107	Cover
60	M4×8 GB68-85	Screw
61	M4×8 GB75-85	Screw
62	M6×6 GB73-85	Setting screw with flat tip
63	0.6×5 ×15 GB2089-80	Spring
64	4 GB308-84	Steel ball
65	2×10 GB309-84	Cylinder stud

LIST 03 Bed

Position	Dimension	Name
1	M4×40 GB70-85	Screw with inner hexagonal head
2	AT125-02-107	sleeve
3	M4 GB6170-86	Low height hexagonal nut
4	AT125-02-106	Hand wheel
5	AT125-02-105	Dial
6	M4×30 GB70-85	Screw with inner hexagonal head
7	AT125-03-113	Long feed threaded pole housing
8	AT125-03-114	sleeve
9	AT125-03-120	Long feed nut
10	AT125-03-104	Semi-colum socket
11	5×40×16 Z18-1	Safety handle
12	AT125-03-116	Eccentric axle housing
13	2×10 GB879-86	Straight spring stud with grooves
14	6 GB1155-79	Pressure feed lubrication
15	M4×22 GB71-85	Setting screws with conical pin
16	4×30 GB117-86	Conical studs
17	M4×25 GB70-85	Screw with inner hexagonal head
18	AT125-03-105	Jaw clutch housing
19	AT125-03-103	Moveable connecting column
20	M4×12 GB75-85	Screw
21	AT125-03-102	Shaft socket
22	AT125-03-101	Jaw clutch shaft
23	5 GB97.1-85	Washer
24	M5×10 GB70-85	Screw with inner hexagonal head
25	3×12 GB1096-79	Spline
26	6 GB1155-79	Pressure feed lubrication
27	AT125-00-302	Support piece
28	AT125-00-301	Support plate
29	M3×5 GB65-85	Screw
30	AT125-03-106	Bed
31	M5×10 GB65-85	Screw
32	AT125-03-117	Wedge
33	M4×16 GB75-85	Screw
34	M4 GB6170-86	Low height hexagonal nut
35	AT125-03-119	Cross feed nut
36	AT125-03-109	Table
37	4 GB848-85	Small washer
38	M4×8 GB70-85	Screw with inner hexagonal head
39	M3×16 GB75-85	Screw
40	M3 GB6170-86	Low height hexagonal nut
41	AT125-03-112	Wedge
42	AT125-03-123	Cross feed threaded pole

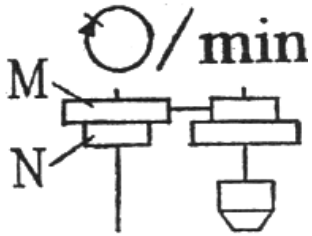
Spindle gear shifting: you may activate this function by setting the proper position of the V-belts in the transmission. Follow the chart below.

Spindle revolution setting chart

A2: 1,700 min.$^{-1}$
A3: 2,500 min.$^{-1}$
B1: 560 min.$^{-1}$
B2: 800 min.$^{-1}$
B3: 1,180 min.$^{-1}$

The above drawing shows the power transfer from the motor to the lathe spindle, using double-stage V-belt gear mechanism. Letters "A" and "B" refer to two positions of the V-belt on the first stage and numbers "1", "2" and "3" refer to the positions of the V-belt on the second stage. For example: "B2" in the above chart refers to the B position of the V-belt on the first stage and the number 2 refers to position 2 of the V-belt on the second stage. In between the revolutions of the lathe are 800 rpm.

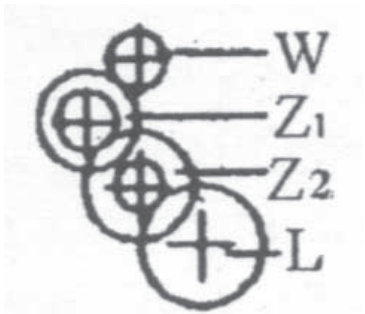
- **Drilling/milling spindle gear shifting:** The method is the same as with the lathe gear shifting. The shifting is done by changing the position of the toothed gear and V-belt. See the charts 2 - 3 above and below.



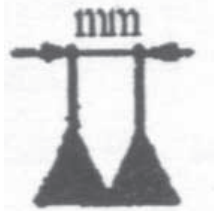
	B1	B2	B3	A2	A3
M	560	800	1,180	1,700	2,500
N	500	700	1,050	1,500	2,200

The letters "M" and "N" are two positions of the V-belt in the drilling/milling spindle. The revolutions of the drilling/milling spindle are determined by the position of the V-belts in the spindle transmission box.
For example, if the V-belts in the transmission are in the B2 position and the V-belt of the spindle is in the M position, the revolutions of the drilling/milling spindle are 800 rpm.

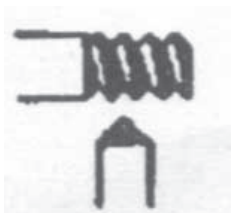
Position and placement of the changeable toothed gear



	0.07	0.13		
W	24	24		
Z1	55 21	60 35		
Z2	20 60	21 50		
L	72	72		



	0.4	0.5	0.6	0.75
W	24	24	24	24
Z_1	55	60	55	55
Z_2	40 21	35 25	21 20	34 30
L	50	50	60	45
	0.8	1.0	1.25	1.5
W	24	24	24	24
Z_1	60	60	60	60
Z_2	20 21	34 40	25 45	40 55
L	50	45	55	35



	16	20	22	28
W	24	24	24	24
Z_1	60	60	60	55
Z_2	21 35	20 30	21 35	35 50
L	40	45	55	60
	32	36	40	48
W	24	24	24	24
Z_1	60	55	55	55
Z_2	20 21	30 25	30 25	30 25
L	50	45	50	60

41	AT125-01-120	Washer
42	2×25×95 AT125-01-121	Spring lamella
43	AT125-01-122	Spindle socket
44	AT125-01-108	Micro-setting base
45	AT125-01-110	Counter shaft
46	AT125-01-109	Worm gear
47	AT125-01-111	Dial
48	1000804 GB276-89	Radial ball bearing
49	AT125-01-102	Flat spline
50	AT125-01-119	Milling and drilling spindle
51	M6×6 GB77-85	Single row bearing
52	M5×63×18 GB4141.15-84	Handle top
53	M5×6 GB4141.11-84	Handle ball
54	4×20 GB119-86	Straight stud
55	M5×25 GB70-85	Screw with inner hexagonal head
56	5 GB96-85	Washer
57	AT125-01-112	Worm gear
58	AT125-01-124	Pulley base
59	AT125-01-128	Pull column assembly
60	AT125-01-107	Pulley cover
61	AT125-01-106	Cover lid

LIST 02 Tail stock

Position	Dimension	Name
1	GB77-85	Screw
2	M5×16 GB4141.11-84	Handle ball
3	5×63 ×12 GB4141.15-84	Handle lever
4	AT125-02-109	Safety socket
5	M5×6 JB/GQ0589-87	Handle
6	M5×45GB5782-88	Self-cutting screw
7	M5×6 GB75-85	Setting screw with full pin
8	M5×6 GB71-85	Setting screws with conical pin
9	AT125-02-103	Tailstock screw stem
10	AT125-02-104	sleeve
11	AT125-02-105	Dial
12	AT125-02-106-1	Bed
13	M6 GB923-88	Arched closed nut
14	M4×40 GB70-85	Screw with inner hexagonal head
15	AT125-02-107	Spherical handle of long socket
16	AT125-02-106	Hand wheel
17	M4 GB6170-86	Low height hexagonal nut
18	AT125-02-101	Tailstock
19	AT125-02-102	Tailstock middle socket
20	AT125-02-108	Safety screw stem

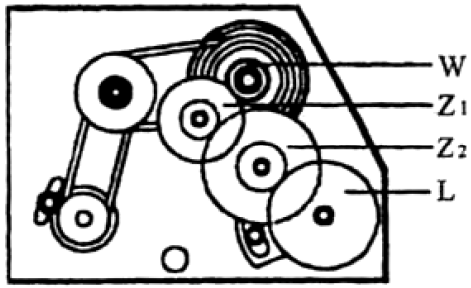
PART LIST

LIST 01 Drilling and milling head

Position	Dimension	Name
1	12GB894.1-86	Outer safety ring
2	AT125-01-118	Conical gear
3	28 GB893.1-86	Inner spacer rings
4	AT125-01-005	Bearing seat
5	101 GB276-89	Radial ball bearing
6	4×12 GB1096-79	Flat spline
7	AT125-01-116	Driving shaft
8	AT125-01-102	Flat spline
9	AT125-01-114	Vertical column
10	M6×10 GB819-85	Screw
11	6 GB894.1-85	shim
12	AT125-01-104	Belt pulley
13	AT125-01-103	Bearing seat
14	M5×10GB5782-86	Screw with hexagonal head
15	1000804 GB276-89	Radial ball bearing
16	32 GB893.1-86	Inner spacer rings
17	AT125-01-126	Casing
18	20GB894.1-86	Outer safety ring
19	AT125-01-101	Drilling and milling head box
20	M4×35 GB70-85	Screw with inner hexagonal head
21	AT125-01-114	Vertical column base
22	AT125-01-127	Locking base
23	5GB894.1-85	washer
24	AT125-01-113	Screw safety pin
25	M15×40 JB/GQ0589-87	Handle
26	M5 GB6170-86	Low height hexagonal nut
27	M5×70GB5782-88	Self-cutting screw
28	5GB894.1-85	Washer
29	M5×45GB5782-88	Self-cutting screw
30	M4×15 GB70-85	Setting screw with full pin
31	M5×50GB5782-88	Self-cutting screw
32	M5x35 GB70-85	Screw with inner hexagonal head
33	AT125-01-105	Nut
34	Y400 GB11544-89	V-belt, type 400
35	AT125-01-125	Belt pulley
36	1000804 GB276-89	Radial ball bearing
37	M5×10 GB819-85	Screw
38	20GB894.1-86	Outer safety ring
39	AT125-01-123	Setting washer
40	1000804 GB276-89	Radial ball bearing

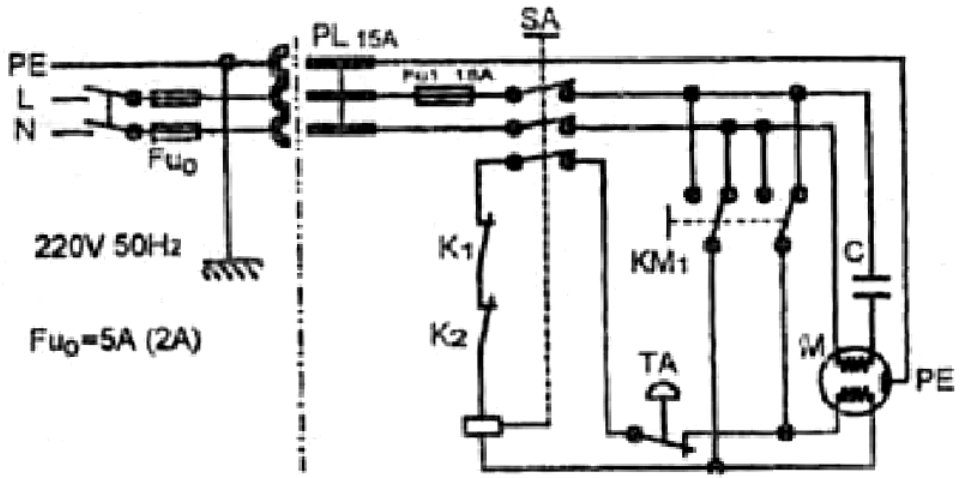
Position and placement of the changeable toothed gear

Toothed gear positions in the transmission.



The letter "W" refers to the output gear of the lathe spindle that usually stays in place.
"Z1", "Z2" and "L" refer to positions of the changeable gears. One or two gears may be set to the "Z1" or "Z2" position but only one gear may be set to "L" position. When changing the gears, follow the instructions in the chart.

ELECTRICAL DRAWING CONNECTION



Description:

- "SA" means the START button
- "TA" means the STOP button
- "KM1" - switch

These control buttons are located in the magnetic switch box "KJD".

- On the left side, from the dotted line, you may see equipment that will be installed by the user.

- 2A fuse serve as a protection against shortcut.

MAINTENANCE

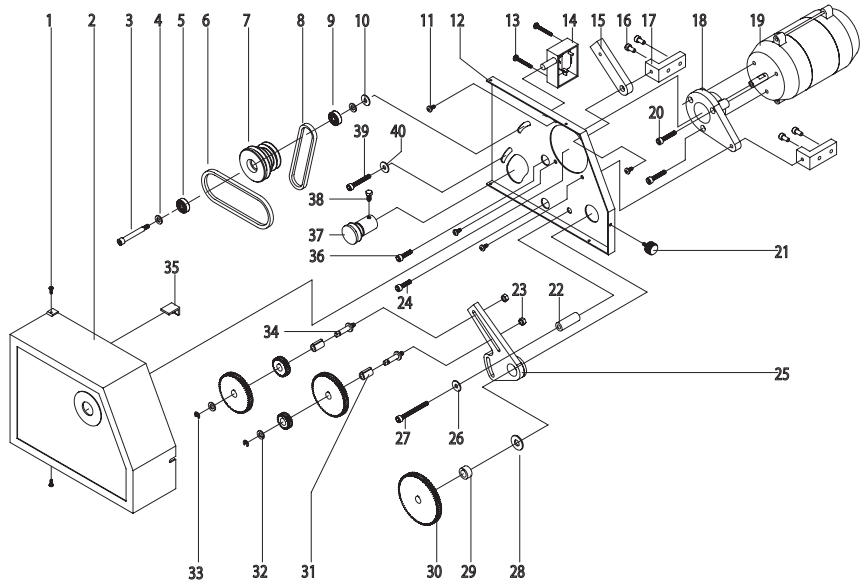
- It is very important to follow the lubrication requirements and specifications. Pay special attention to bare metal parts of the guiding system, guiding screw, work table etc.
- During operation follow all applicable technical and technological rules and regulations. Do not try to work on pieces with dimensions that are not in accordance with the technical limits and specifications.
- To ensure full operational power, make sure all V-belts are properly tensioned. If you find loose belt, tighten it immediately.
- If you hear unusual sound or unusual situation occurs, switch off the machine immediately. Have the defect (if any) repaired.
- Use only accessories supplied by the manufacturer to ensure safe operation and prevent damages to your machine or parts.
- Keep your tools clean. Dirt may enter the inner mechanism of your machine and cause damage.
- Do not use aggressive cleaning solution or paint thinners to clean the machine.
- Clean plastic parts with cloth dipped in soup water.
- Clean and lubricate metal surfaces with a cloth dipped in paraffin oil.
- If you are not using your machine, lubricate it with suitable grease and store it in a dry place to prevent corrosion.

Lubrication

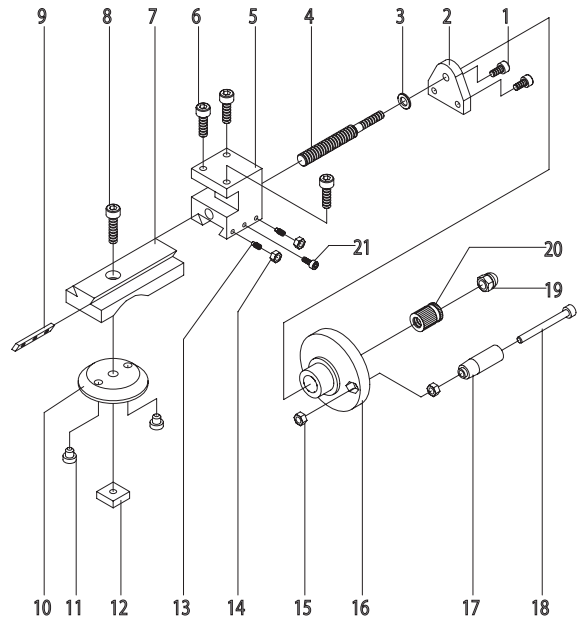
Lubricate working surfaces with suitable grease regularly.
All bearings must be lubricated and cleaned regularly at least once a year. Lubricate regularly guiding surfaces, guiding screw, sliding surfaces, stands, tip socket, drilling/milling spindle casing etc. Use machine oil.

Detailed description of the use of this device is not included in this manual, because the manufacturer / distributor assumes that the user is experienced in similar type of work. Also according to the applicable law, this device is considered as a commonly sold and used tool. If the user is unfamiliar with the use of this device, we recommend finding out more information about using this device at the Department of work safety.

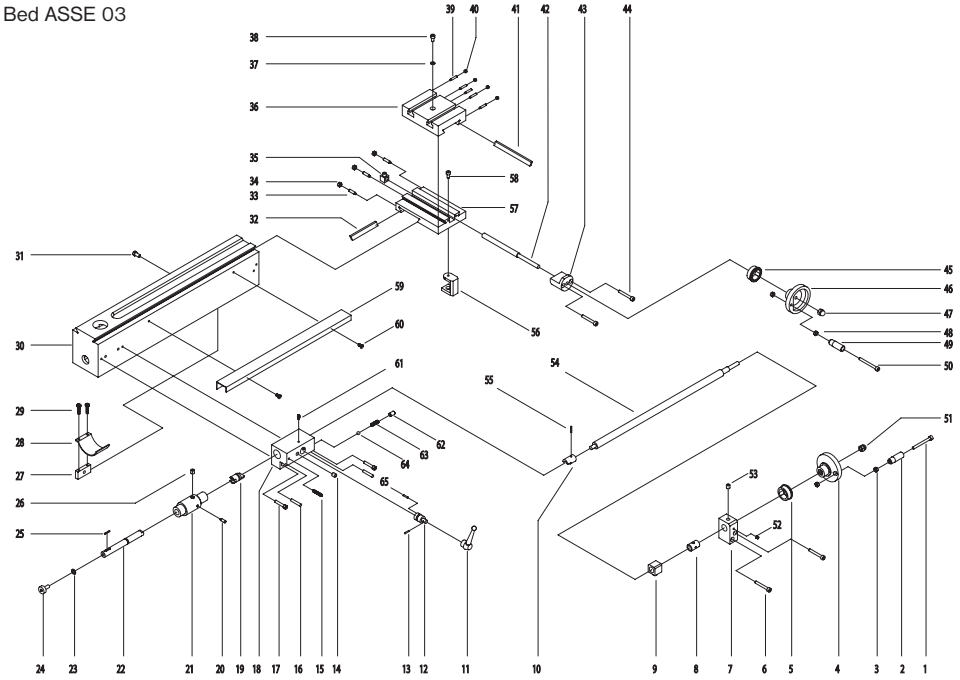
Gear box ASSE 05



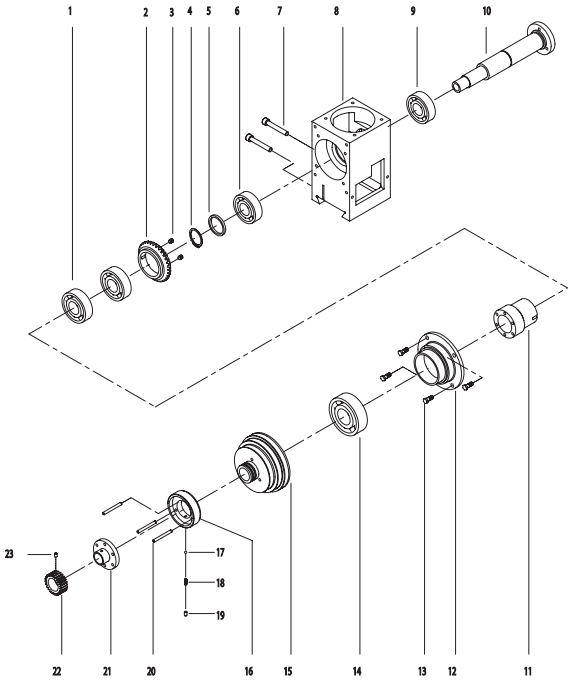
Knife holder ASSE 06



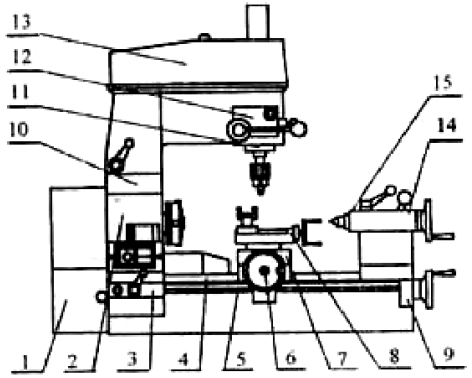
Bed ASSE 03



Lathe spindle ASSE 04



List of lubrication spots:



Pos.	Lubrication spot location	Lubricated part	Method of lubrication	Type of lubrication	Lubrication period
1	Transmission	Toothed gears, bearings	Lubricate with grease	Lubrication grease	Once a month
2	Lathe spindle	Bearings	Lubricate with grease	Lubrication grease	Once a year
3	Left stand	Bearing case	Lubricate with pressurized oil	Machine oil	Once a day
4	Bed/stand	Guiding track, stand	Lubricate with pressurized oil	Machine oil	Once a day
5	Bed/stand	Long screw, nut	Lubricate with pressurized oil	Machine oil	Once a day
6	Bed/stand	Cross screw, nut	Lubricate with pressurized oil	Machine oil	Once a day
7	Work table	Work table surface, guiding track	Lubricate with pressurized oil	Machine oil	Once a day
8	Knife head	Guiding track, guiding screw	Lubricate with pressurized oil	Machine oil	Once a day
9	Stand	Bearing case	Lubricate with pressurized oil	Machine oil	Once a day !
10	Vertical column	Bearings	Lubricate with grease	Lubrication grease	Once a year
11	Spindle socket	Spindle socket	Lubricate with pressurized oil	Machine oil	Once a day
12	Fine control mechanism	Worm gear wheel, worm gear	Lubricate with grease	Lubrication grease	Once a month
13	Drilling/ milling spindle	Bearings	Lubricate with grease	Lubrication grease	Once a year
14	Tailstock	Guiding screw, nut	Lubricate with pressurized oil	Machine oil	Once a day
15	Tailstock	Tip socket	Lubricate with pressurized oil	Machine oil	Once a day

Note:

- We recommend using radical lubrication grease number 3 Ca.
- We recommend using machine oil number 20.
- "Once a day" refers to one working day, "once a month" and "once a year" refer to one working month and year.
- Parts lubricated with oil must be also cleaned thoroughly.

DISPOSAL

When the operational life of your device is over, dispose off it in accordance with valid rules and regulations. Your product is made of metal and plastic parts that may be recycled when separated.

1. Disassemble all parts.
2. Separate all parts according to the material they are made of (e.g. metals, rubber, plastics, etc.). Take the separated parts to the recycling facility near you.
3. Electrical waste (used electrical power tools, electric motors, recharging equipment, electronics, accumulators, batteries etc.).

Dear customer. In accordance with the valid regional rules and regulations describing the management of electrical waste, electrical waste is considered dangerous.
Disposal of electrical waste must be therefore handled as dangerous waste in accordance with waste management rules valid in the state you are in.

It is prohibited to mix electrical waste with regular household waste.
You may return your used electrical appliance to a recycling facility near you. More information about electrical and dangerous waste disposal may be obtained from your local authority or from the Internet.

CAUTION

If the machine breaks down, send it back to the vendor for quick repair.
Please, enclose brief description of the defect. That makes repair easier. If the machine is still covered by warranty, enclose the warranty card and proof of purchase receipt. After the warranty period expires, we repair your machine for a special price.

To prevent possible damages during shipping, packed the machine carefully or use the original packaging material. We are not liable for shipping damages due to incorrect packaging of your machine. If making a claim at the shipping company the level and method of packaging plays a major role during claim evaluation process.

Note: Pictures and contents in this manual may slightly differ from the actual product or accessories. It is due to continuous improvement of our products. Such small differences have no effect on the product functionality.

DETAILED PART DRAWING

Tailstock
ASSE 02